

## Indices Rules - Basics

Name:

Class:

Date:

Mark

/ 18

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1) Write in index form

[4]

a)  $3 \times 3 \times 3 \times 3 \times 3$

b)  $3 \times 5 \times 3$

c)  $\frac{7 \times 7 \times 7 \times 7 \times 7 \times 7}{7 \times 7 \times 7}$

d)  $5 \times 5 \times 2 \times 5$

2) Evaluate the following. Where appropriate, leave your answer as a fraction.

[5]

a)  $5^{-5} \times 5^5$

b)  $3^{-2} \times 3^{-4} \times 3^3$

c)  $10^{-4} \div 10^{-1}$

d)  $\frac{3^2}{3^3}$

e)  $(10^2)^2$

3) Evaluate

[1]

$58^0$

4) Simplify, giving your answer in index form

[5]

a)  $7^{-1} \times 7^2$

b)  $2^{-1} \times 2^{-3} \times 2$

c)  $(5^{-4})^2$

d)  $7^2 \div 7^4$

e)  $\frac{2^0}{2^{-6}}$

5) Simplify

[1]

$68^0$

6) Show the following as a power of 10

[1]

10000

7) Show the following as a power of 4

[1]

$16^3$

## Solutions for the assessment Indices Rules - Basics

1) a)  $3^5$

b)  $5 \times 3^2$

c)  $7^3$

d)  $2 \times 5^3$

2) a) 1

b)  $\frac{1}{27}$

c)  $\frac{1}{1000}$

d)  $\frac{1}{3}$

e) 10000

3) 1

4) a) 7 or  $7^1$

b)  $2^{-3}$  or  $\frac{1}{2^3}$

c)  $5^{-8}$  or  $\frac{1}{5^8}$

d)  $7^{-2}$  or  $\frac{1}{7^2}$

e)  $2^6$

5) 1

6)  $10^4$

7)  $4^5$